THE

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NOTES OF A VISIT TO CYPRUS.—No. I.

LARNACCA.

IT was a fine bright morning in the month of August, 1849, that the Tuscan brig 'Corriero di Cipro,' in which we had taken our passage from Tersous, hove in sight of the pretty-looking seaport town of Larnacca, in the island of Cyprus. Larnacca is situated nearly *vis à vis* to Beyrout; and with the assistance of the fresh land breeze, that had blown without intermission throughout the night from off the shores of Asia Minor, our passage had barely occupied fourteen hours when the anchor was down, the sails all furled, and the ship's boat alongside in readiness to

convey the captain and passengers on shore. There were a great number of vessels lying in the roadstead of Larnacca, which, though by no means a secure anchorage, nor yet holding out much inducement in the shape of traffic, is nevertheless the constant resort of French, Italian, and Greek vessels, that call here both on the voyage to and from Syria and the various European ports of the Mediterranean, for the purpose of replenishing or laying in a stock of provisions;—all the necessaries, and many of the luxuries, of life being procurable at absurdly-cheap prices in this beautiful and fertile, but neglected island.

As viewed from the shipping, Larnacca presents a very pretty aspect. Close by the water's edge, and for a considerable distance along the beach, is a line of brilliantly white, neatly-constructed houses, whose gaily-painted balconies, bright green window, and, in many instances, flagstaff-surmounted terraces, stand forth in bold relief to the thick green foliage of the gardens, situated on the higher ground immediately behind the sea-port town. Beyond these, again, are a low range of dusky-looking, barren hillocks, and further on still the deep blue colour of the sky is gracefully outlined by the faint purplish-grey tinge of the higher mountains in the interior. Such was our first impression of this charming island, so celebrated by profane Greek historians and poets as the chosen abode of their favourite deity, the goddess Venus, and which in later years becomes of more enhancing value from the fact of its shores having been twice visited by the early apostles—first when Barnabas and Paul landed here, A.D. 44 (Acts xiii. 4); and secondly, when Barnabas came hither, accompanied by John, in about A.D. 53 (Acts xv. 39), just eighteen hundred years from the period we are now writing. Barnabas was considered the chief apostle and first Bishop of Cyprus; and it is here that he is said to have suffered martyrdom, having been stoned by the unbelieving Jews of Salamis.

On landing, we were first assailed by a number of quarantine guardians, all anxiously officious to inquire into our state of health, and to discover, had that been possible, a flaw in the bill of health, which might have enabled them to incarcerate us in the not very inviting or commodious lazaretto for a term not less than twelve days, to the no small emolument of the local authorities and themselves; and—setting aside the inconvenience, which is very great, owing to the heat of the weather, and the filthy and dilapidated condition of the quarantine establishment—to the peril of our health, if not of our lives. Absurd as the notion must appear, it is nevertheless a fact, that though by land there is an uninterrupted communication between Syria and Asia Minor, vessels coming from the latter country are admitted into free *pratique*, whereas vessels from Syria are considered as suspicious, and accordingly subjected to a vigorous quarantine. However, our bill of health was quite *en règle*. But we had no sooner set foot on shore than we fell into the clutches of the custom-house people, who annoyingly insisted—first on inspecting our teskeras, or Turkish passports, and then in tumbling everything out of our portmanteaus and carpet-bags, in search of imaginary goods supposed to have been smuggled. Being unsuccessful in the search, our clothes were unceremoniously bundled back into the boxes; and, to crown the farce, these gentlemen had the audacity to ask us for a buxshish, a demand which, very much to their disgust, we refused to comply with. We were then at liberty to proceed wherever our fancy led us: and now arose the difficulty where to find a lodgment; hotels there were none,

except some low Greek taverns which aspired to such a distinction, but which, besides being filthy in the extreme, were the hourly resort of the most notorious blacklegs and gamblers in the island. In this dilemma a tall cawass, armed with a silver-topped cane, presented himself, and begged of us, on the part of his master, Her Britannic Majesty's Consul at Cyprus, to *boierum*, i.e., to favour his master with our company; an invitation that we the more willingly accepted, as the sun's rays were beginning to glow intensely hot, and the refraction and glare from the calm sea on one side, and whitewashed houses on the other, was beyond endurance.

In following our guide we had leisure to observe that the Mina, or seaport town, of Larnacca consists simply of one long, narrow street, clean, and kept in excellent order, and lined on either side by a row of houses; the lower parts of most of which served as shops, warehouses, or taverns, whilst the upper stories were inhabited by the proprietors and their families.

There were two things which attracted our attention immediately on landing, and which speedily convinced us that, though only separated a few hours' sea voyage from the shores of Palestine and Syria, we were completely out of the range of not only the habits, manners, and customs of the people of those countries, but their very language had ceased to be heard. Not one word of Arabic could be understood by any individual we encountered. Turkish, and a kind of patois Greek, was all that could be spoken or understood; and even Italian, the *lingua franca* of Syria, was double Dutch to all the lower classes of the inhabitants. The next thing was carriages—real four-wheeled conveyances—with horses and harness to boot! Our servant Hanna had never seen such phenomena in his life; he had once heard say that his father's great-uncle had really known a celebrated pasha who drove up to the gates of Antioch in a very wonderful machine, called an araba, drawn by horses; but as he had never seen even the picture of such a thing, his conception fell very short of what the reality proved to be; and he could not resist the temptation of stopping and touching every vehicle that happened to be standing by the roadside, and of applauding the wonderful ingenuity of the *Eben Frangi*, who had first invented a carriage. We must confess, ourselves, that not having seen anything but horses, mules, and camels, for the last six years, we felt a wonderful inclination to jump into the first empty conveyance, and giving reins to the horse drive wherever the fancy led him.

Whilst admiring these signs of civilization, and reflecting on the sudden change that surrounded us, our guide stopped opposite to a massive gateway, the doors of which were thrown wide open, and in two minutes after we were ushered into the presence of our worthy and hospitable consul, Mr. Niven Kerr, who insisted on our taking up our abode at his house so long as we saw fit to remain at Larnacca.

The British consulate, and many of the other consular residences, are situated at the north-eastern extremity of the Mina, or the modern town of Larnacca; Larnacca Proper, or the real town, being full a mile further inland. Most of these buildings were of modern construction—some of them perfect palaces, both as regards size and beauty of structure. The house inhabited by the French consul was in particular a magnificent building; and nothing could have been more charming than his audience-hall, from the centre of which a species of alcove jettied out into the sea,

so much so, that in boisterous weather the white, cool spray came dashing through the open casements, and fell in crystal showers upon the marble slabs with which it was paved. Sitting here of a sultry summer's day, even when hardly a breath of air stirred or ruffled the calm bosom of the waters, the very motion of the waves themselves created a gentle atmosphere of their own, which made the heat supportable; and then the pleasant smell of the seashore; and the beauty of the panorama expanded to one's view; the clear blue sky; the deep blue ocean; the narrow neck of the promontory, thickly set with graceful palm-trees, stretching out into the sea, till its faint outline was lost in hazy distance; the white sails of vessels passing to and fro; and the great variety in shape and size of the vessels lying at anchor—all these were a pleasure and a pastime that only those know how to appreciate, who, like ourselves, found the sultry heat of midday so intense that to move one's hand to drive away a tormenting fly required an exertion; when reading, exercise, or sleep, were out of the question, and the lassitude experienced was so great that the only method of getting through the day was to stretch oneself at full length on a divan close by the window side, and gaze out upon the ocean. For a reflective mind there was plenty of food for occupation. Not a ripple on the sea, or the shadow of a cloud, but what had its peculiar merits and beauty, and could speak volumes about the wisdom of Him who created all things for some wise end.

From the foregoing the reader may readily conceive the climate of Larnacca is not the most salubrious; but its present unhealthiness may in a great measure be attributed to local miasma, occasioned by the salt marshes some few miles to the northward of the town, and which, during the great heats of July and August, emit noxious vapours that hover over the town, and are only dispersed when the land-winds are more than usually strong. Unfortunately during these two months the nights are stiflingly close; agues are very prevalent, and especially with European strangers. The simple intermittent fever, if in the least neglected, is too apt to take a malignant form; and a few hours of intense suffering terminates the patient's earthly career. A lamentable instance of this occurred in the case of the late highly-respected consul, Dr. Lilburn, whose short but useful career so endeared him to the natives of the island that they barely mention his name without evident signs of heartfelt sorrow. Himself a physician, he was careful to attend to the wants of and to succour the poor and afflicted. Yet, strange to say, warned—as he must necessarily have been, by the hourly calls for his professional aid—of the risk incurred by any undue exposure to so baneful a climate, he thoughtlessly neglected this warning, went out partridge-shooting on one of the hottest days of the season, and three days afterwards he was carried to that last, long home, "where the weary are at rest."

Modern Larnacca was constructed to facilitate what once promised to become a flourishing commerce, viz., the exportation of terra-ombra, which abounds in the island, to various ports of Europe; and there is little doubt but that this traffic would have materially benefited Cyprus in more than one respect. The love of gain, which lies latent in the breast of every Cypriot, only required an exciting stimulant to warm it into activity. Hundreds who squander their time away in the pursuit of vices and debauchery almost as iniquitous as the pastimes of their ancestors, the votaries of the goddess Venus, would be induced to devote attention to

the collection of this terra-ombra; and the great additional influx of vessels, necessarily increasing the demand for live-stock, wine, and other provisions, would act as an incentive to many to turn to some useful purpose the vast tracts of neglected country, the fertility of whose soil is such, and the supply of water so abundant, that little or no labour would be requisite for the production of a hundred species of vegetables, and many delicious fruits. Even as things are, and negligently though they be cared for, poultry is so abundant and cheap that the cost of a couple of young turkeys rarely exceeds a shilling; and for that amount chickens may be purchased by the dozen. But besides this, what a vast field of employment would have been thrown open to the islander when we remember the quantity of Syrian grain now consumed in Europe, and reflect that the fields of Cyprus, if cultivated, would alone suffice to load at her various seaports sufficient grain to supply all the markets of Great Britain and Ireland. In addition to all this, it is well known that cotton can be produced; countless flocks of sheep fed upon the plains and mountain sides, to furnish wool; and, as ruins over different parts of the island testify, the sugar-cane once attained such perfection in this island that the ruins of sugar-factories have been discovered in various parts, and alone testify of one single source of wealth, which, if carried out, would command a revenue more than amply sufficient to counterbalance the whole expenses of the island. And now the question naturally arises, "What prevented the successful carrying out of the terra-ombra scheme?" and the reply is simply this:—The quarantine establishment, and the impositions practised by the local authorities, who, hovering over the island like so many birds of prey, no sooner observed that there was a likelihood of terra-ombra being in great demand, than they established iniquitous duties and taxations, upon the ground, upon the conveyances that transported it, and finally extorted a disme from both the seller and the purchaser. This, in addition to the expenses incurred by quarantine dues, disheartened speculators, and so the thing was allowed to drop, and the authorities, like the old fable of the dog and the shadow, lost what little gain they possessed by grasping at too much.

But such is the natural indolence of the Cypriot Greek, that, though possessed of every facility to ward off such a calamity as a famine, it will hardly be credited when we state that, in 1845, when Syria suffered materially from such a visitation, though the islanders had ample time to plant out any grain that might have served as a substitute in the hour of need, or even have been supplied with seed potatoes from Tripoli, in Syria, they neglected all these precautions, and the result was that want came stalking in amongst them with his train-bearers, misery, disease, and death; and then, too late, they repented them of their folly. To such a pitch did the famine rage in the island, and so sore pressed were the people for means to purchase corn, when at length ships did arrive from that granary of the world, Egypt, that valuable horses, whose lowest cost might have been reckoned at 25*l.*, were sold or bartered for approximate valuations of from 1*l.* to 1*l.* 18*s.* The great stand-by of the Greeks during this dearth was that for which they have been celebrated from the earliest ages, that which barely any season fails to render them a grateful and abundant supply—we allude to the grape vines. From Alexandria in Egypt, on the one side, to the Turkish capital on the other, the whole intermediate coasts of Palestine, Syria, and Asia Minor are entirely dependent upon Cyprus for their annual

supply of rackey, or, as it is there termed, mastica, from mastic being dissolved in the spirit. From some motive or other, no other place in the East can rival Cyprus in the manufacturing of this spirit: some peculiarity in the soil imparts to the grape that peculiar flavour to which the inhabitants of Turkey in Asia are so partial; and though these very identical vines have been uprooted bodily, and carried to other parts; and though they grew and flourished, and yielded fruit abundantly, there was no longer the same flavour in the grape. Hence also the wines of Cyprus have, through many ages, obtained a notoriety.

But in the whole island there are no finer caves than those situated under some of the houses at modern Larnacca. These caves existed long before the houses were constructed, buried deep under the sand. None but the owners there know their exact whereabouts; and this precaution was found necessary in former years, when the unsettled state of the Turkish empire gave free scope for the depredations of a horde of Greek and Ionian pirates, who, under the cloak of trade, carried on the most nefarious practices, making frequent descents upon the unoffending and unprotected islanders, and carrying off everything they could lay their hands upon, which in their estimation possessed the least intrinsic value. A wine vault was to them a treasure-trove; and the fine old golden-coloured camandaria of half-a-century's standing in wood was sure to fetch in any part of Europe ten times its weight in gold. Hence the necessity of the vaults being detached from the houses; and to these circumstances alone are the islanders to this day indebted for the fact of some of them being enabled to boast that they can produce from their vaults wine that has not seen the light of day for sixty years or more. This old camandaria is highly recommended by the faculty for invalids in a convalescent state; but both this and the common black wine of the island, as also the famous rackey, was a source of wealth to the starving inhabitants, who readily bartered it with the supercargoes of vessels laden with corn for bread to supply their every-day wants. Meanwhile, the annual silk crop had been neglected; and even the sessame seed, which had promised a rich harvest, and was a new source of wealth, freshly introduced into the island, even this was neglected by the starving tenants, who in hungry multitudes flocked down to the seaside, watching anxiously, like the prophet's servant of old, for some small cloud upon the skies, which might harbinger, if not a coming shower, some favourable breeze that might help the wind-bound corn-laden vessels to get into port, and so send them bread.

Of Larnacca Proper we shall treat in the next chapter.

CURIOSITIES OF COMMERCIAL SPECULATION.

"The hand of the diligent maketh rich," is the declaration of inspired Truth; and history and experience offer many and varied examples to illustrate this proverb. "He that hasteth to be rich hath an evil eye, and considereth not that poverty shall come upon him," is another Scripture truth; and the following instances confirm it in a remarkable manner.

In the month of June 1695, the Scottish Parliament passed an Act to establish "a company trading to Africa and the Indies, with power to plant colonies, and build cities, towns, or forts, in places not in the possession of any other European power, with the consent of the natives." This

company was to be exempt from all duties and impositions for twenty-one years. The founder of the project was William Paterson, who, having been an adventurer among the West India Islands and on the American continent, had perceived the favourable position of the Isthmus of Darien as the seat of a great commercial city. The Darien scheme, sanctioned by Parliament, and regarded with favour in high quarters, as a means of drawing off the Scottish mind from the recent massacre of Glencoe, was now thrown open to subscribers. The whole country was soon in a ferment, and 400,000*l.* were immediately subscribed. To this sum England threw in 300,000*l.* in a few days, and the Dutch and Hamburghers added 200,000*l.* more. But the English merchants were seized with jealousy, and the two Houses of Parliament opposed the scheme. The result of this opposition was that Scotland was left to her own scanty resources for carrying it out. On the 26th of July 1698, five ships set sail from Leith, with twelve hundred men on board, amongst whom were three hundred youths of the first Scottish families. Many seamen and soldiers were found hid in the ships, and, when ordered ashore, they clung to the ropes and timbers, and implored to be taken. Thanks were publicly given in the churches of Edinburgh when the news of the formation of the colony arrived. The pulpit seems to have been a frequent place for declamation on this subject, and a professor of philosophy delivered an oration in favour of the settlement.

But this joy was soon over. The climate, and an illiberal order to the governors of British colonies prohibiting all intercourse with the colonists, proved fatal to the scheme.

The Spaniards, too, ultimately attacked the colonists. The project proved a total failure, although a second expedition was sent out from Scotland to the ill-fated spot. Paterson became lunatic, but recovered. It is touching to read of the walks of the poor settlers on the ground behind their fort to enjoy the mountain air, and think of their far-distant Scottish hills. "Darien," said Paterson, "the door of the seas, the key of the universe, will enable its possessors to become the legislators of both worlds, and the arbitrators of commerce. The settlers at Darien will acquire a nobler empire than Alexander or Cæsar without fatigue, expense, or danger, as well as without incurring the guilt and bloodshed with which conquerors are usually chargeable." How these extravagant expectations were realized we have already seen. But a deep stain of guilt remains upon the English merchants who frustrated a scheme which might have led to very beneficial results, despite the enthusiastic character of its leader.

In 1671, John Law—the prince of speculators—was born at Edinburgh. He was the son of a wealthy goldsmith and banker; and, after a wandering career as a gambler, he obtained leave to start a bank in Paris, which prospered greatly. The French Government then took possession of this establishment, and appointed Law its director-general. This transfer was made in 1718. But Law had already entered into other schemes, and ultimately he became the director of the royal bank, and of a colossal Trading Company of the Indies, as it was termed, which absorbed into itself nearly all the commerce of France. The two enterprises were united in 1720. A mania to possess shares in these schemes seized upon the French, and most surprising anecdotes are told of their feverish avidity to become participators in the wealth which appeared to be pouring in on all sides. A humpbacked man is said to have made a fortune of 150,000 livres by allowing the stockjobbers to use his hump as a writing-desk.

Princes, dukes, peers, bishops, and judges thronged the Scotch projector, and ladies were by no means the least persevering claimants for the coveted shares. One ordered her carriage to be overturned in the street, and, when Law flew to her assistance, she confessed her trick, and had her name entered as a purchaser of stock. Enormous fortunes were made in a few days. One night at the opera, a magnificently-attired female attracted great attention; a young lady whispered to her mother, "Why it is our cook, Mary." She was right—Mary had speculated, and become rich.

Wages and prices rose. Above three hundred thousand strangers are said to have been residing in Paris, in November 1719, many of whom lived in granaries and lofts; the golden harvest brought crowds of foreigners to reap or glean in the glittering fields. Velvet and gold clad the promenaders of the Parisian streets.

Law was now a demigod with the French; and, having professed the Roman Catholic religion in January 1720, he was appointed comptroller-general of the finances. The Academy of Sciences elected him an honorary member, and the poets vied in compliments to the saviour of France. The city of Edinburgh sent him a gold box containing its freedom. It is said that even the Prince of Wales, subsequently George II., was a secret dabbler in Law's stock.

The bubble was now at its full size, and, after a brief quiver, it burst. A drain of specie from the bank set in, and in a short time 500,000,000 livres had been sent out of France. Various edicts were passed to stop the run upon the bank; but, upon the 27th of May 1720, money payments ceased, and Law was dismissed from his office as minister of finance. He was compelled to have a guard to protect him in the streets, and at last he took refuge in the Palais Royal.

An abortive attempt was made to reinvigorate the Indian Company, but the scheme may be considered to have exploded when the bank stopped payment in specie.

Law obtained permission to leave France, where his life was in danger. After wandering about the Continent he came to England, and lived by gambling. He died at Venice, in 1729, in straitened circumstances. Thus closed the career of a projector whose schemes ruined thousands of families, and gave a shock to France which it felt for years.

In 1711, the Earl of Oxford laid the foundation of the celebrated South Sea scheme. A company of merchants undertook to pay 10,000,000*l.* of Government debt, and as compensation they were to receive various privileges, and amongst them was a monopoly of the commerce in the South Sea, or Pacific Ocean, as it is now termed. The scheme was to fill Britain with gold from Peru, Mexico, and other auriferous countries. But Spain was an obstacle in the way. However, this South Sea Company prospered as a monetary firm—for its commercial schemes fell to the ground—and competed successfully with the Bank of England in 1720, in a rival offer for the payment of the National Debt. This prosperous contract brought the company under the public gaze, and everybody wished to invest capital in so promising a speculation. It seemed as if the whole nation had commenced stockjobbing. As soon as the fever had reached its height, the chairman of the company and others sold their shares. The stock fell; and so great was the rage of the populace that the directors of the scheme were mobbed in the streets, and serious riots were apprehended.

Parliament took up the matter, and four members of the House of Commons were expelled for their share in the fraudulent scheme. The Chan-

cellor of the Exchequer resigned office, and was also expelled the House and committed to the Tower. His property was sentenced to be confiscated. That of the directors was to be treated in the same way, excepting a reserve allowed to each.

Contemporaneously with the South Sea scheme, many other projects floated for a time. One was for settling the island of Blanco and Sal Tartagus; one for a wheel for perpetual motion; one for importing walnut-trees from Virginia; one for converting quicksilver into a fine malleable metal; and one "for carrying on an undertaking of great advantage, but nobody to know what it is;" the artful sharper who started this last scheme received nearly one thousand deposits of 2*l.* per share in five hours, and the next day was over the Channel—and the money too.

About the year 1634, a speculative mania of a curious kind sprang up in Holland. The culture of tulips had arrived at a high state of perfection, and roots were exported to all parts of the world. In the year just mentioned this trade was carried on with feverish intensity in the Netherlands. A weight, termed a perit, was used to regulate the prices of the tulip roots. A new carriage, two grey horses, and a complete harness, together with 4,600 florins, was the bargained price for a root of the tulip called Semper Augustus. Those who could not give ready money offered houses, lands, cattle, and clothes. One individual gained more than 60,000 florins by this trade in four months. Noblemen, citizens, mechanics, seamen, farmers, turf-diggers, sweeps, footmen, maidservants, old-clotheswomen, joined in the mania. The poorest sometimes won in a few months what enabled them to appear like noblemen. To explain this gambling, let us take an imaginary case. A nobleman bargains with a merchant for a tulip root, which is to be delivered in four months. The sum to be paid is 1,000 florins. At the time of delivery, the price of this species of tulip has risen to 1,400 florins, and as the nobleman never wished to have the root, the merchant pays him 400 florins, which the former had won by the speculation. If the price of this tulip had fallen to 900 florins in the four months, the nobleman would then have had to have paid the merchant 100 florins.

At last this trade suddenly declined. The sellers wished to deliver the roots to those who had bought without ever intending to receive them, and the purchasers would neither take the roots nor pay for them. Disputes thus arose, and the magistrates were appealed to. Ultimately, accommodating measures were taken, and the tulip fever ended.

In 1824-5, a joint-stock mania agitated this country; and in 1845-6, a railway fever seized upon us. Let us explain the nature of some of these baseless systems of speculation. An attorney and two or three accomplices draw up a scheme for a railway, with the names of certain individuals—the most respectable and best known that can be procured—for an interim committee. A public meeting is now got up: the scheme is pronounced good; a prospectus is put forth; and printed letters, with blanks, are sent to the sharebrokers for those who wish to purchase shares. We will suppose that the capital is put down at 100,000*l.*, in five thousand shares of 20*l.* each, with a deposit, or first payment, of 1*l.* per share.

Applications now pour in, and men, who could not raise 10*l.* will ask for one hundred shares. The committee meet to allot shares, and, after attempting to select individuals who will *hold*, they reserve a remainder for themselves. The letters of allotment are sent out, requesting the bearer to pay in his deposit of 1*l.* per share to a certain bank. But the receiver of

the allotment letter never meant to take the shares. He is what is termed a *stag*, and sells his allotment of twenty shares for the sum of five shillings to some one who wishes to dabble in the speculation secretly. Others wait for a few days to see if the stock is at a premium; if it is they pay their deposits, if it is not they throw their allotment letters into the fire. To prevent this, the committee appoint two sharebrokers to buy five hundred shares on the day upon which the letters are issued. They purchase in small lots, and at a premium of from 2*s*. 6*d*. to 5*s*. per share. This artifice succeeds, for the share lists quote the price of the stock, and next day the holders hurry off to sell after they have paid their deposits. Buyers cannot be found, and the shares are speedily at a discount, unless the committee can keep up the credit of the stock. By various tricks they succeed in doing this.

Soon bankers' receipts are received in exchange for *scrip*—a kind of cheque which is generally a voucher for five shares. Those who receive this scrip bind themselves to pay up the value of the shares represented by it. The probability that the company will receive the sanction of Parliament is exaggerated in various ways. The stock oscillates, and the cautious ones take advantage of high prices. At last the bill is thrown out of Parliament, perhaps, and so the scheme summarily expires. Or a second call upon the shareholders for a deposit causes a panic, in which everybody wishes to sell and nobody is willing to buy, and down sink the shares in price, until ultimately hundreds of last holders are ruined. Other causes may bring about such a consummation.

Such trading as this is essentially gambling. To spread false rumours—to take advantage of another's ignorance—to help to blow up a bubble, and then to sell out when it is about to burst, and leave others to be ruined—are deeds which ought to be called robbery, rather than speculation.

FASTS AND FESTIVALS, AS OBSERVED BY THE NATIVES OF THE HOLY LAND.—No. I.

OBSERVANCE OF LENT BY THE GREEKS.

The last day of the carnival is past, and the merry-making of the simple Greek peasantry inhabiting the beautiful valley of the Orontes is brought to a close. Young men of the village, arrayed in gay holiday attire, return from the fields where they have been merry-making and enjoying athletic games all the afternoon, and divest themselves, not only of their best suit of clothes, but of all thoughts of amusement and fun for forty days to come. Maidens who have danced the hours away to the music of their own voices, come back with downcast looks, and assume their coarsest apparel. The sun sets in the west behind a golden-fringed cloud, and the last substantial repast of the season is served—meats and fowls and savoury pillaufs: these and like Eastern dainties are set before the hungry peasantry, and they fall to with an appetite rendered still more keen from the certainty that for forty long days to come, in health or in sickness, they are restricted from tasting any dish of which flesh or butter or milk, or even eggs, form an ingredient. Nothing save fruits and vegetables, rice, olives, and olive-oil; these alone are considered admissible. Their ignorant priests, from their pulpits, urge on them this necessity; and the people, bigoted and superstitious, would rather die than deviate

from the injunction. Such is their perversion of the creed of a Christian! At length this substantial meal is ended, and—first going through the necessary ablutions, so requisite where fingers are used in lieu of knives and forks—the whole of the villagers repair *en masse* to the simple little rustic-looking chapel, erected on a mountain whose sides are covered with olive-trees; and there they pray and sing hymns, and listen to an oration from the old grey-bearded priest, who endeavours to explain to them, as far as in him lies, the motives for observing the approaching fast, why it was ordained, and to what ends it may serve; and then he sends them all away to their homes with a blessing.

The dawn of the first day of Lent breaks in the east, and the good woman of the house is up and stirring. Heretofore, her first care was to milk the cows, and visit the hen-roost in search of new-laid eggs; now she confines herself to carefully sweeping up the yard in front of the house and watering the flower-garden; and then she calls up her eldest daughter, bidding her make good speed in feeding the poultry and giving fodder to the cattle. This done, a small charcoal fire is lit in the kitchen, and on it the careful dame places the coffee to boil, so that it may be ready against the good man's awaking. The sun peeps over the dome of the little village church, and all the household are up and doing. The master of the house does not look so pleasant this morning as is his wont; he sits upon a stone in front of his house, and smokes his morning pipe, for this is not prohibited, and sips his small cup of coffee, for neither is this prohibited, being void of milk; and for want of better occupation he amuses himself by throwing small pebbles at his fowls, which will persist in rooting up his best parsley-bed. At length he gets up and yawns, and stretches himself, and then sighs, possibly at the thought that, however hunger may annoy him, he has no chance of getting anything to eat for a good long hour after midday. This done, he goes through his morning's ablution, and the faithful partner of his joys and sorrows brings him a suit of apparel, the very worst and the most ragged contained in his wardrobe. She, herself, who at other times passes as a pattern of tidy neatness in the village, being clad in veritable beggarly robes. The husband eyes these clothes askance; if he had his own will he would rather wear his second-best suit. But in these objections he would be speedily overruled by his loving partner; for in Syria none are more rigid observers of a fast than the women, and this is also the case in many Catholic countries in Europe. Clad in these unsightly robes, the crest-fallen husband takes up his pipe and his tobacco-pouch, and saunters forth into the village, to sit and smoke with his neighbours under some wide-spreading tree, close to the village coffeehouse, from which at intervals they are supplied with small cups of intensely bitter coffee.

In this interval all the younger branches of the family have been roaring for their accustomed breakfast. Up to the age of three have their appetites been gratified on the spot, for they are exempt from the general restriction, and they accordingly feast upon fast-day food. Dried figs and raisins and bread, and such fruits as are in season, satisfy their rapacious appetites; those that are on the sliding scale above three years and up to eight, have their hunger only aggravated by watching the proceedings of their younger brethren. They have no idea, and cannot be brought to understand, why they should fast and the others feast; and the mother and the eldest daughter have enough to do

between them to argue with, and persuade, and threaten the two elder of the crying lot out of the inutility of their proceeding. Brother Hanna, who is ten years old, is held up as an example to them: "they ought to act more like men and women, because they are half-grown-up already." Such arguments, with a little coaxing, at length succeed; and the youngsters go forth and play, and almost forget their penitence, till occasionally reminded of it by a sharp twinge in the stomach. Not so the little one that is just within the pale of fast-keeping: she cannot be brought to reason at any price; and though her sobs are occasionally hushed by direful threats held forth, so sure as ever she turns her little tear-bedimmed eyes towards the *débris* of her younger brother's morning repast, so surely does she burst out into a howl again; till at last, overcome by excessive infantine grief, she creeps into the house again, and drops off fast asleep. The young gormandizers have gone to sleep already. This grand victory having been obtained, the mother and the big sister bestir themselves, and commence active operations for the day. Whenever they are in want of a broom, or a mop, or a bucket, or any other necessary article of domestic economy that may have been forgotten in the room where the infant sleepers lie, stealthily and slipperless they creep in and out of the room; for to awaken one of the slumberers would be destruction to their forenoon plans. Oh! but the fowls will have a rich treat this morning, and so will the sparrows! The first thing to be done is to cleanse all the kitchen utensils from their impurities, and to scour out every platter, and every cup and spoon in the establishment. Here they come, mother and daughter, carrying out between them a huge caldron, in which last evening's pillauf was boiled. They hold it from them at arm's length, as though the very odour of the meat, and other rich ingredients boiled with the rice, were enough to contaminate them, and render them unfit to keep the fast. There is still enough left to satisfy two hungry ploughmen; but not one spoonful of it would any man in the village taste for all the wealth of the gold-diggings. The daughter fetches out a huge iron ladle, and scoops out the remnants of what she so carefully cooked for last evening's repast, and scatters it upon the ground for the especial behoof of the poultry. See how they come running and flying and screaming for joy, followed by the old majestic cock, who, though he doubtless entertains strange misgivings as to his arriving too late, is far too courteous and polite, and thinks a great deal too much of his dignity, to move at anything more rapid than a double quick-march time; besides, his gallantry will not permit of his being served before the ladies. In this respect he sets even his master a good example; for the peasant has no idea of anybody in his house (strangers always excepted) being served before himself.

More cooking utensils are brought forth and capsized, to the intense delight of the poultry; and then all these pots and pans, and cups and spoons, are ranged in a line, like so many patients infected with the plague or any other contagious disorder, and the mother and the big sister enact the part of quarantine guards. Shovelsful of sand and woodashes are thrown in and upon them, and then kettlesful of scalding water are poured over them. After this, the two set-to and scour them all out, till every pot and platter shines again, both inside and out. Then there is a scrubbing-match in the kitchen itself; and, this being effected, all the utensils are restored to their proper

places, and they are now considered fit for use, and free from all grease and impurity.

About this time the master of the house, urged on by the cravings of nature, ventures home again, to see how time progresses; but, catching a glimpse of the active operations being carried on by his wife and daughter, makes a precipitate retreat; and, filled with hunger and despair, wraps himself up in his meshlah (cloak), and falls fast asleep under the nearest tree. Now, and not till now, does the busy matron give a thought to what they are to have for dinner. Stores are ransacked in search of fast-time provisions: first, she fills a goodly-sized cup with olives, preserved in their own oil—the great stand-by of the Syrian Greeks during their fasts; then she ladles out a little pure oil, both to cook with and to eat in its raw state with bread; then some hot chilly pickles, a handful of onions, and a piece or two of garlic; after all, comes the staple commodity, the Arab staff of life—to wit, burghul, which is a composition, being wheat boiled, then dried in the sun, and then ground into grits. There, these constitute the principal ingredients of the midday dinner; but just as a relish there are a few dried figs and raisins, and, may be, a walnut or two. It is useless to look in the kitchen-garden for vegetables, for the season is yet too early for them; from the same motives it would be extravagant to hunt up the bazaars for fresh fruit: the apricot-trees are laden with promise, but even the earliest fruit will barely be fit to eat before Easter. Under these circumstances, the big sister is provided with a big basket, and she goes into the neighbouring fields in search of marsh-mallow and other herbs, known as edible only to those whom necessity has taught to hunt for them; and yet some of these herbs are very palatable even to European palates, as we can testify from experience. On the present occasion, the fast being young, marsh-mallows are abundant; and so the daughter has not far to go before she returns with her large basket filled to the brim. During her absence the mother has been far from idle: the burghul has been boiled, the onions fried in oil, and, in short, all that is required to complete the repast is to cook these marsh-mallows; and this is very soon accomplished, for the water has been boiling ready for them, and a few minutes will suffice to render them fit for the fryingpan, and there they are fried with onions, garlic, oil, and a little lemon-juice. Go, now, and awake the good man, and tell him that at last his hunger may be appeased; the youngsters scamper in at the first call; the infantine slumberers awake; and, take my word for it, that it is a hungry party that assembles that day round the not very inviting fare, to which, however, they all do ample justice; for, after all, the best sauce is a right-down good appetite.

After dinner, the master of the house returns to his village friends, assembled at the village coffeehouse, and there he sits and smokes and idles the precious hours till nigh upon sundown. Not that he is by any means an opulent man, or can afford to waste time and labour; but that it has been a long-established usage in his country, and especially in his village, never to work upon the first three days of Lent, nor upon any other fasts or feasts during the year; and as the Greek kalends reckon a rather lengthy string of saints and martyrs, what with fasting for one and feasting for the other, there are at least a hundred and fifty days out of the year on which the Syrian Greek peasant is idle; and this is why they never advance in riches or understanding, and this is

why they will always remain impoverished, and the slaves of their own indolence, so long as enveloped in the dark folds of superstition.

But to return to our peasant and the coffeeshop. Sometimes there happens to be a man in the village who possesses the rare abilities of being able to read and write. Whenever such is the case, his services are put into immediate requisition; he is forced into the service, and being accommodated with the most comfortable seat under the shade of the fine old tree, he sits there and reads to them the marvellous tales of a truth:

The Village Reader.

the history of Joseph and his captivity, and how he was sold to the merchants and carried into Egypt. As soon as the intelligence spreads in the village that there is a learned man reading under *the tree*, all the inhabitants of the village—men, women, and children—flock to hear him. To watch their earnest attention; to listen to the sighs and indignation of the women when the old scribe who is reading comes to that part where the wicked brothers deceived the poor brokenhearted old father with tattered and blood-stained coat of many colours; to hear their *affarems* (bravos) when the history comes to that part where Joseph is elevated to the highest honour; I say, to be a spectator of all this, would do a philanthropist's heart good, and be a subject fit for a painter.

But whilst we have been mingling with the crowd, and listening attentively to all that has been read, the good woman at home, and her active young daughter, have not had a second's respite from labour. All the linen worn during the carnival has to be routed out and tied up in a bundle, against to-morrow's washing; for they, too, are tainted

with the odour of dainty meats; and all this having been accomplished, there is yet the evening's meal to be prepared. There is not much variety in this meal to that of the forenoon; only the daughter, in lieu of gathering marsh-mallows for supper, goes a little further on to the river side, and brings home a goodly supply of water-cresses. These make a nice salad; and the wife, still more to please her hungry husband, compounds a favourite mixture to eat with his pillauf—onions and red chillies, and a little salt and lime-juice, all beat up together in a mortar. If you do not admire the flavour, you will at least admit that it is exceedingly strong, and productive of spontaneous tears. This latter mixture, with a little oil and bread, is all that many of the poorer classes of the peasantry subsist upon during the forty long days of their penitence.

The second Friday in Lent the Greeks are permitted to eat a particular species of fish, called by them the sepia, or ink-fish. To secure this booty they are out all Thursday night; some are successful, some catch none; but in the long-run it amounts to the same, for they are a simple-minded, generous people: and after the old priest with the grey beard has had his portion, the rest is divided, share and share alike.

Thus commences Lent with the Syrian Greeks inhabiting the valley of the Orontes; and thus it continues, with very little variation, until a week before Good Friday. If they are a superstitious people, they possess the merit of being an artless people, free from all craft and cunning; and though they remember not the words of Him who said, "When ye fast, be not as the hypocrites, of a sad countenance" (Matt. vi. 16), it is from ignorance alone, and from no other motives, for all are acting alike.

SUBSTANCES USED AS FOOD.—No I.

NATURE AND ELEMENTS OF FOOD.

It is important to know the real use of food before alluding to the various forms in which it is presented for our consumption. It is well known that in the absence of food life cannot be long sustained: but, probably, many persons are ignorant of the reasons which render food necessary to man and animals. Upon this subject there has existed a remarkable degree of obscurity until within a few years; and those whose duties consist in the investigation of subjects of this kind—chemists and physiologists—knew until lately but little of the nature of those substances which supply the means of life to animals, and which, if withdrawn, cause their death to ensue. The correct explanation of the value of different kinds of food, which connects itself with the same subject, is also of recent discovery. By careful experiments, which have been carried on both in the laboratory of the chemist, and have also been conducted upon the living body, a rational theory of the use of food has been constructed, and has already led to very important consequences in a medical point of view. It is our present purpose to attempt a simple account of the best-established views on this subject; and in so doing to enable the reader to form a clear and accurate idea of those uses for which the food which nature teaches us to be necessary is applied in the living being.

The uses of food are twofold. First, to supply the elements for the nutrition and building up of the body, which is in a constant state of

change and of decay; and, secondly, to keep up its temperature. Food, therefore, is either nourishing, as contributing materials which are added to the frame, or it is supporting, as furnishing elements for keeping up a constant supply of warmth throughout the body. It is difficult to say which of these functions is the most important, since they are inseparably associated together during life in warm-blooded creatures. No man or animal could long exist on food which served only to keep up the animal heat, or on that which serves only as contributing to the nutrition of the animal tissues. It will be shown further on, that an animal cannot live upon sugar, which is an element of food going to support the heat, nor upon gelatine (or jelly), which is one which directly goes to build up the structures of the body.

This twofold character of food shows that two great processes are connected with its consumption in the living animal. In order to give a simple view of these processes it may be said that food is either burnt in our bodies to keep us warm, or digested and appropriated to keep us growing, or at least in health. There is, therefore, an internal fire or source of heat in the animal frame, and a source of growth and strength. For one or other of these purposes all the food we consume is required. It does not much signify whether our diet be plain and simple, or costly and luxurious, these two kinds of elements are always extracted from it—food as fuel, and food as building material. The severe and simple diet of the hunter supplies to him—equally with the most rich and varied food of the monarch to him—the sources of heat and those of growth.

It requires a very little consideration to show that there exists in every warm-blooded animal, as in man himself, a constant source of warmth. The fact that without our using any effort of which we are sensible to keep the body warm, may, perhaps, account for the infrequency with which the inquiry suggests itself, why is this heat kept up?

The temperature at which our bodies are sustained is remarkably constant under many varieties of circumstance. This temperature is called, for the sake of convenience, the animal heat. The temperature of man ranges between 97° and 100°; that of birds is considerably higher, having been observed to reach as high as 112° Fahrenheit. The temperature of the human body is only slightly affected by external circumstances; and under the opposite conditions of a polar cold, or a tropical heat, the standard temperature is very slightly affected. In some diseases it appears to undergo a remarkable increase: thus it has been said that in a fearful spasmodic disease called Tetanus, the animal heat has been found to rise about 12° above the natural average. In Asiatic Cholera, on the contrary, it has been found to fall as much as 20° below the standard, so that the expirations of the unfortunate patient have felt almost cold. It is sufficient, however, for the purpose in hand, to consider the fact as established, that there exists in the living body a source of heat, and that the degree of this heat is in man on the average about 97° or 98° Fahrenheit.

The development of heat in the living body is singularly illustrated in the economy of bees. The insect in passing from its condition as a pupa, or nymph, to that of imago or perfect state, requires the fostering influence of a somewhat elevated temperature. The nurses in the hive are required to fulfil this task, and to keep the bodies of these tender little creatures warm until they are perfectly developed. This is effected in an interesting and curious manner. The nurse places itself over the

cell which contains the young insect, and begins to respire with energy. It continues in this position, increasing the number of its respirations until they are extremely rapid, and have been estimated to be as many as one hundred and thirty in a minute. The effect of this is that the nurse becomes extremely hot, and thus imparts to the cell on which she is placed the warmth of her own body. A thermometer, placed in a nest of humble bees in the midst of a group of nurses thus occupied, marked a temperature of 92°; that of the external air being 20° lower, or 72°. This circumstance not only clearly indicates the possession of a source of heat by the animal body, but also, in an interesting manner, directs our attention to the means by which it is sustained, namely, by the office of respiration, or breathing.

Some portion of the food has been already called fuel, from the fact of its being used in the body to generate heat. With almost equal justice the lungs may be considered as the furnace by which this fuel is burnt and consumed. These vastly-important organs exhibit, on carefully examining them, a structure eminently adapted to fulfil the purposes for which they are intended.

The essential phenomena of respiration are as follows:—By the action of the muscles of the chest, air is drawn into the lungs, and there penetrates to their remotest portions. The blood-vessels which enter these organs are characterized by a remarkable subdivision into minute vessels, the thin sides of which are almost in immediate contact with the air, and permit, consequently, the free escape of gases from them, and also the free absorption of gas into them. The current in these vessels is driven by the heart; and the blood, after being purified, is carried quickly back to the heart with as little loss as possible of its freshness, and is thence transmitted by arteries to every portion of the frame. Thus the entire function of breathing consists essentially of two parts, the ingress and egress of the air, and the circulation of the blood exposed to it. If we regard the air entering the lungs as the analogue of that supplying the draft of a furnace, that coming from them as the smoke of a furnace, and the elements of the blood as the fuel of the furnace, we have, then, a tolerably accurate idea of the process itself.

The gas which supports ordinary combustion, as that of a fire or a candle, is the oxygen of the air, and combustion is generally described as a process of chemical change, in which bodies, such as fuel, combine with oxygen under the influence of a high temperature. The combustion of a coal-fire is a strictly chemical process, the carbon and hydrogen of the coal unite with the oxygen of the air supplying the draft, and in this act emit a large amount of caloric, and also of light. The combustion that takes place in the wick of an ignited candle is precisely similar. Oxygen is absorbed, and heat and light are developed, while certain gases, carbonic acid and watery vapour, are given off. These facts were familiarly known long before the idea was conceived that a process of combustion exactly analogous to this was in constant progress in the living body. It is true, light is not emitted by the body, but a process of combustion is constantly taking place, in many other respects like that which goes on in a common fireplace.

We are now in a position to decide what elements of the food fulfil the first indication—that is, go to keep up the animal fire—and also what kinds of food are chiefly used in the body for this purpose. In every form of natural and artificial fuel, carbon and hydrogen are the

elements which supply man with heat, by their combination with atmospheric oxygen. The same is true also of the body. It is the carbon and hydrogen of our food which undergo combustion in respiration, and so produce the carbonic acid and watery vapour which are discoverable in expired air. Upon the union of these elements, therefore, much of the animal heat is dependent. Carbon and hydrogen are thus seen to form the chief constituents of the fuel of the living furnace. It is estimated that about ten cubic feet of carbonic acid gas are extricated from the lungs, in an average day, by a grown person.

Some of the elementary principles which are of use to us as food, chiefly in consequence of their acting as fuel to the process of combustion carried on in breathing, are of that chemical composition that they only yield carbon to the respiratory process; their other elements, hydrogen and oxygen, being in the proportion to form water, which is simply exhaled in the breath. Under this division must be placed sugar, starch, and gum, and also vinegar, or acetic acid. There are other substances used as food, which supply both carbon and hydrogen to the process of breathing, that is, as repeatedly explained, to the act of combustion. Among these are all fatty substances, and wine and spirituous liquids. The fatty substances, such as salad-oil, butter, &c., are as truly burnt in the body as they are in a lamp. Thus, then, it appears that all sugars, gums, starches, such as arrowroot, &c., wine, and ardent spirits, stand, in their relation to the body, in the same light as fuel to any common apparatus for producing artificial heat. Presuming that enough has been said to render this part of our considerations on the subject of food easily intelligible, we shall now shortly notice those portions of the food which are of use in promoting growth, and in repairing waste.

Those substances which are used by man as food, and which nature selects for the purpose of forming flesh and blood, and for the general nutrition of the body, contain a proportion of nitrogen in their composition. This element, nitrogen, not found in the other elements of food, is of great importance; and the nutritious properties of food very much depend upon the proportion of nitrogen which it contains. Among these must be reckoned the gluten, which forms a considerable portion of wheat, the caseine of milk, the albumen of eggs, and the fibrine of meat. These compounds are all decomposed by the process of digestion, and subsequently received into the blood, by which they are conveyed throughout the body to supply its waste, and to promote its growth and vigour. But there is another principle, which is familiar to the invalid under the form of jelly, called gelatine, which is received into the blood at once, without any preparation, and is applied, immediately, to the nutrition of gelatinous tissues in the body. This accounts for the value of this substance as a part of the diet of those whom disease has prostrated. Since it requires no vital effort in order to render it available as nutriment to the tissues, it necessarily leaves the rest of the materials of the blood to be applied to other purposes. The principal use of jelly is, therefore, that it saves using up materials, which are thus left at liberty to be applied to the building up of other structures.

In order to set before the reader a simple view of the nature of food, we have permitted ourselves to adopt this division of its principles into, first, heat-producing, and, secondly, flesh and blood making; but in nature no such separation really exists. It is a merciful ordinance of the all-wise Creator, that we are not required to feed upon simple alimen-

tary principles, such as starch, gum, and vinegar, or gluten and caseine. The food of man and animals is always a compound aliment. Thus, with the gluten of wheat, a very large proportion of starch is always united in the flour which we convert into bread. And with the caseine of milk there is always a proportion of sugar and of oleaginous matter. There are, it is true, many substances, such as sugars and arrowroots, which are of importance as food, and are, nevertheless, simple alimentary principles; but life could not be sustained upon them, and animals have died of starvation with an abundance of such food before them. Bread, the almost universal food of man, is a compound aliment; that is, it contains some principles which go to feed the furnace of respiration, and others which form flesh and blood, and upon this substance life can be sustained for any period. The early food of man, milk, is likewise a compound aliment. In both these instances, the proportions in which the principles are united, evince the wisdom and care of that Great Being who regards the wants of the infant with the same tender adaptation of food to circumstances, as those of the adult.

The food of man may be divided into solid and liquid, and into animal and vegetable. The following classes of animals are described by Dr. Pereira as yielding solid food to man in this country:—*

Mammalia.—The ox, sheep, deer, hog, hare, rabbit, &c.

Aves.—The common fowl, pigeon, pheasant, partridge, turkey, goose, duck, &c.

Reptilia.—The green or edible turtle.

Pisces.—Mackerel, salmon, herring, sprat, whitebait, cod, haddock, flat fish, eel, &c.

Mollusca.—The oyster, mussel, cockle, scallop, periwinkle, limpet, and whelk.

Crustacea.—The lobster, crab, prawn, and shrimp.

The alimentary principles, exclusive of water and salts, obtained from solid animal foods, are fibrine, albumen, caseine, gelatine, and fat.

The sources of solid food from the vegetable kingdom are, by the same authority, said to be about twenty natural orders of Exogenous plants, five of Endogenous, and three of Cryptogamous plants. The chief alimentary principles derived from these plants, exclusive of water and saline substances, are fibrine, albumen, caseine, gluten, oil, sugar, starch, gum, a substance called pectine, and certain organic acids.

The liquid foods or drinks of man are extremely varied in their nature and composition, but may almost all be arranged under the following heads; and in this we shall again follow the authority of Dr. Pereira:—

1. Mucilaginous, farinaceous, or saccharine drinks; as toast-water, gruel, mucilage, &c.
2. Aromatic, or astringent drinks; as tea, coffee, chicory, cocoa, and chocolate.
3. Acidulous drinks; as lemonade, ginger-beer, &c.
4. Animal broths; as beef-tea, mutton-broth, &c.
5. Emulsive drinks; as milk, &c.
6. Alcoholic drinks; as beer, wine, ardent spirits, &c.

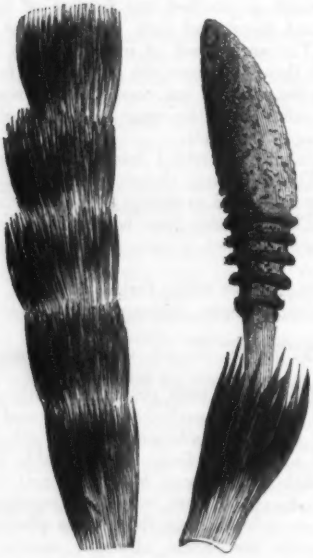
In addition to these solid and liquid substances used as food, man has been taught by nature, or has learned by experience, the value and importance of certain seasoning agents or condiments. These are either saline, acidulous, oily, saccharine, or aromatic: they are not merely of

* Pereira, 'Materia Medica,' vol. i. p. 63.

use in gratifying the taste, but are also more or less necessary as adjuncts to ordinary food, in order to the sustenance of health. Those ingredients of this class which are of sufficient importance will come again under our notice.

THE FERN TRIBE.—No. IX.

THE HORSETAIL.



The Horsetail.

There is a rather limited but very singular, and, in most instances, beautiful class of plants, which are placed by some botanists as introductory to the true ferns, and by others as leading from them to the club mosses, and other lower branches of flowerless plants. We shall place them in the latter position, and proceed to examine the order Equisetaceæ, which comprises within its limits ten species of what are commonly called Equisetums, or horsetails. Newman describes them as "semi-aquatic plants, composed of tough fibrous roots, or jointed, hollow, cylindrical, subterranean rhizoma; and erect, jointed, cylindrical, leafless stems, which are generally furnished at each joint with a whorl of jointed, hollow, angular, leafless branches. The fructification is produced in terminal spikes on catkins; and these are either borne at the head of the usual stem, or on separate, earlier, shorter, stouter, and more succulent stems, which decay immediately after the escape of the seeds." This order (Equisetaceæ) contains but one genus, named, after the order, Equisetum.

We give this scientific description, as it is important to our purpose to furnish the student with correct definitions; but it may not be amiss to add old Gerarde's more graphic, and, consequently, more attractive description of the first species of this genus, which may be taken as a type of the tribe:—"Great horsetail riseth up with a round stalke, hollow within like a reed, a cubit high, compact as it were, of many small pieces, one put into the end of another, sometimes of a reddish colour, very rough, and set at every joint with many stiff, rush-like leaves, or rough bristles, which maketh the whole plant to resemble the taile of a horse, whereof it took his name; on the top of the stalke do stand, instead of floures, clustered and thick catkins, not unlike to the first shoots of sparage,"—sparage being the old name for asparagus.

The ten species of Equisetum which grow in England are:—1. E. hyemale, the rough horsetail, or Dutch rush; 2. E. Mackaii, or Mackay's horsetail; 3. E. variegatum, the variegated horsetail; 4. E. palustre, the marsh horsetail; 5. E. fluviatile, the water horsetail; 6. E. limosam; 7. E. sylvaticum, wood horsetail; 8. E. umbrosum, the shady equisetum; 9. E. telmateia, the great horsetail; 10. E. arvense, the corn-field horsetail.

This order of plants, although in many places several of the species are very abundantly distributed, and there is no district of England where some or other of them may not be found, is, nevertheless, one of which less notice is taken, both by botanists and florists, than of most other tribes. It is allied to the N. order Filices; yet it stands forth as distinct, both in structure and appearance, from that and all other orders as it is well possible for it to do. Those who have lived much in the country, and have been in the habit of groping about at springtide in the hedge-rows and meads, by the water-courses, whence the winter floods have now somewhat retired, and in the low pasture lanes which of late were half under water, cannot, however, have failed to observe these plants under both their aspects, which are, indeed, as dissimilar as if, instead of being the fertile and sterile spikes of the same plant, they were members of wholly different families. Go to such grounds as I have before described, in April or May, and you will probably find, starting up from the bare ground, some perfectly-erect, pale-brown, or buff-tinted stalks, bearing on their summits dense spikes, or catkins, composed of many angular, stalked scales. These scales, if examined under the microscope, will be found to bear at the under part from four to seven oblong cells, each containing many minute seeds. The stalk on which this catkin is placed is succulent and bitter; jointed like the bamboo, and each joint furnished with a toothed sheath. The colouring of the stem, which in some species is tinged with soft green, the size of the catkin, and the denticulations of the sheaths at the articulations of the stalks, vary in the different species; but one general character pervades all, with the exception of two or three, in which the fertile stalk is branched, and one or two, in which the catkin is very dark in colour. At the time when our ramblers find these strange-looking things, they may, if they observe closely, find a few massive heads of some plant, which are just beginning to force their way up through the mould, which will prove to be the first rudiments of some of the sterile spikes; but, with the exception of these, the banks will exhibit little besides the usual low herbage and grass which commonly adorn them through the winter. Delighted with the curious things they have found, we may fancy our friends returning to visit the spot in July. What will be their surprise to find a

perfect forest of tall, bristly spikes, more like a bottle-brush than anything else to which we can compare them, filling up the low ground which had been flooded in the spring, clothing the hedge and the bank, and overhanging the brook, so as to conceal its channel from sight! These clustering spikes seem to have no end. Our friends go into the adjoining field, where were found the smaller catkins, and there in all directions are spikes of a smaller kind, and in some respects different, being about their due proportion to the size of the catkins which had preceded them, but as numerous as the larger ones in the water-course, and so scattered among the grass as to greatly injure the farmer's crop of hay. These great and beautiful spikes, both the larger and the smaller kinds, are all the barren spikes of different species of the same plants, as those whose fertile spikes were displayed in the form of catkins in April; the usual course of this tribe of plants being to produce their fruit some weeks before the leafy or barren branches come into existence.

It will not be necessary to give a detailed account of each species of this family; but there are some of them which require a little specific notice.

The first named, E. hyemale, or the Dutch rush, presents a different appearance from those which we have described. It grows from two to three feet in height, is devoid of the bristly branches, or leaves, which are found generally on the Equisetaceæ, only now and then throwing out a single one from the joint. It is divided into about fourteen joints, each of which is furnished with a striated, toothed sheath. The stems between the articulations are hollow, the joints themselves solid. In this species the catkin is borne on the summit of the leafy stem, and does not form a separate plant, as in the instances before named. The stems of this plant have for centuries been used for giving the final polish to wood, bone, and even metal; and for this purpose it is still freely imported from Holland, where it grows more abundantly than with us. In Northumberland it is said to be used by servants for scouring their milk-tubs and other household utensils. Sir H. Davy detected in the stem of this plant an extraordinary quantity of silex; and it is this quality which gives it its value as an article of commerce. The silex appears in the form of minute crystals arranged with beautiful and perfect regularity. It is said by botanists that the quantity of silex is great, and the particles so closely set, that the whole of the vegetable matter may be removed by maceration without destroying the form of the plant. The catkin in this species is small and dark coloured.

Of the two next species, E. Mackaii and E. variegatum, we need but say that they so much resemble E. hyemale, which we have above described, as to have been usually considered as mere varieties from them. E. palustre is one of those which we have named as bearing its catkin on the apex of its leafy stem. The stem is perfectly erect, and grows to a height of about fifteen inches; it is deeply furrowed and finely granulated. Like all other Equisetums it is jointed, and its articulations encircled by toothed sheaths: these sheaths are larger in circumference than the stem, and in consequence stand out from it. The teeth with which it is edged are eight in number, acute, wedge-shaped, tufted with black, and with nearly transparent membranous edges. At the summit of the stem is a long, narrow catkin, which, when mature, stands on a stalk of about its own length. At first the scales of this catkin are crowded together, and form a black mass; but as they mature, the scales separate and turn

brown; they then discharge their seeds, perish, and fade off, leaving the stem and branches in full vigour. This kind is found in marshy grounds.

The next species which presents itself to us, E. fluviatile, is another of those formed as the preceding, with its point on the summit of the branching stem. This is universally distributed, and usually occurs in ponds and ditches, a portion of the stem being immersed in water. The stem is erect, and often more than three feet in height, including the part which stands beneath the water. The submerged part is smooth, the whole stem striated and pointed; the sheaths, which are a quarter of an inch in depth, are green, and clasp the stem, which is also green, very closely. The teeth (from sixteen to twenty in number) are separate and sharp pointed, and of a dark brown or black. The portion of the stem above the water is furnished with whorls of ascending branches, commonly called leaves, which rise from the articulations below the sheaths; and on its point is borne a short, ovate, gibbous catkin, composed of scales, often more than one hundred in number, at first quite black, but, as they separate by the ripening of the catkin, a common receptacle of ivory whiteness is disclosed. This species of Equisetum, as is indeed the case with the whole tribe, are said to possess medicinal properties. Linnæus says that it is a good food for cows and rein-deer; and in the 'Journal of a Naturalist' we learn that it is a favourite food with the water rat. The author says: "A large, stagnant piece of water in an inland county, with which I was intimately acquainted, and which I frequently visited for many years of my life, was one summer suddenly infested with an astonishing number of the short-tailed water-rat (Arvicola amphibia), none of which had previously existed there. Its vegetation was the common product of such places, excepting that the larger portion of it was densely covered with its usual crop, the smooth horsetail (E. fluviatile). This constituted the food of the creatures; and the noise they made by their champing it we could distinctly hear in the evening at many yards' distance."

The loveliest of all this pretty group of plants next claims our notice, the Wood Horsetail (E. sylvaticum). This seems to form a sort of link between those which throw up their catkins on a separate bare stem, producing at a later season the leafy barren stalks, and those which exhibit both fruit and branches on the same stem; for the wood horsetail sends up its catkins in April, on separate, earlier stems than those which usually bear the branches, and are barren; yet these fertile stems also display branches when mature, and not unfrequently whilst the beautiful catkin is still in vigour on its apex. It is a little plant of at most about a foot high; the stem is of the most delicate pinkish hue, tinged with a soft green, and set off by the rich black pointing of the teeth of the sheath. From each of the three or four upper joints springs a whorl of delicate-green pointed branches, which droop like a sort of canopy round the stem, their emerald hue and graceful curve giving to the plant a most attractive appearance; and its elongate catkin, which crowns the summit, shows the same greenish-pink tinting as the stem, with the addition of the rich colouring of the pale-brown scales. The barren stems, which arise almost simultaneously with the fertile, are more slender, the whorls of branches much closer together, and the branches much longer and more numerous—the whole having a weaker and more drooping appearance, and the colour of both stems and branches being less clearer and vivid than that of the fertile spike. This kind grows in moist woods.

The Shady Horsetail, E. umbrosum, is rare, and has only been found in a few localities in Scotland and Ireland, and not at all in England. The fertile stems are from four to six inches high, of a pale-whitish green, the sheaths large, loose, and nearly white, with a brown ring at the base of the teeth, the catkin terminal, oval, and of a pale brown. The barren stem is about eighteen inches high, and branched, somewhat like the last described.

The Great Horsetail, E. telmateia, is the curious and beautiful kind, with the general description of which this paper opened; and the next succeeding, E. arvense, is the smaller species, which we have spoken of as likely to be mixed with it, and in the adjoining pasture-ground. We have, therefore, little more to say of either of these species, except to point attention to the great beauty of the barren stem of the former, which grows sometimes to a height of from four feet and a half to five feet. It is at the base from an inch to an inch and a half in diameter, and tapers to a point at the summit. The stem is perfectly smooth, the colour of the part between the sheaths of the upper portion white, just tinged with green; but towards the base of the stem an intense black. The sheaths are, at the stoutest parts of the stems, fully an inch and a half in length, striped and finished at the upper edge with a row of slender, thread-like, black teeth: the sheaths are pale green. Each of the joints is furnished with a whorl of slender branches; those towards the summit of the stem being eight or nine inches long, those in each whorl becoming shorter as they draw nearer the base of the stem, until they are scarcely visible.

The exclusively fertile stems (for in this and the preceding species there are not only barren and fertile stems, but those which partake of both natures) come up, as I have said, in April. They are eight or nine inches in length; the catkin, which is very thick, occupying about a fourth or rather more of its length. The sheaths, which nearly cover the stem, are large and loose, at the base pale brown, but darker towards the summit, and edged with from thirty to forty thread-like teeth.

The other species, E. arvense, or the corn-field horsetail, is much smaller, and its catkin very pretty, being slender, of a delicate brown, and raised on a footstalk; the stem, a light sort of salmon colour, or brownish, and tinged with rosy red; the scales are very regularly arranged, and shed, when ripe, abundance of seed of a beautiful green colour. The branches of the barren stems are feeble, and scattered in growth, and the whole plant of a dull glaucous green, and much less beautiful than any of its congeners.

But pleasures are like poppies spread,
You seize the flower, its bloom is shed;
Or like the snowfall in the river,
A moment white, then melts for ever;
Or like the borealis race,
That flit ere you can point their place;
Or like the rainbow's lovely form,
Evanishing amid the storm.